

Applicant: Jay M. Short
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AMENDMENTS TO THE SPECIFICATION:

Please replace the paragraph on page 14, lines 12-14 of the instant specification as follows:

Figure 3 is a flow chart which illustrates the concepts of utilizing DNA adducts or UV light to halt PCR and to generate random polynucleotides due to random priming and incomplete extension of the strands. Figure 3 is illustrative of the following steps: 1. Random primers are used to amplify templates pretreated with DNA adducts; 2. Adducts cause premature termination of extension by blocking the polymerase; 3. Random size fragments are created by random priming and premature termination; 4. DNA fragments are then ready for sexual PCR.

Please replace the paragraph on page 14, lines 17-18 of the instant specification as follows:

Figure 5 ~~is a flow chart~~ illustrates the steps involved in utilizing UV light, which may be utilized to halt PCR and generate random polynucleotides. The steps and description of creating DNA adducts using UV light according to Figure 5 are as follows: 1. Irradiate a pool of template DNA with UV light; 2. Cross links in the DNA (represented by triangles) will be introduced by the UV light. These cross links will stop taq polymerase extension; 3. Use random primers on cross linked DNA and extend with taq polymerase; 4. Taq extensions are blocked by UV adducts. This creates random sized fragments that are ready for gene shuffling.

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Please replace the paragraph on page 14, lines 19-26 of the instant specification as follows:

Figures 6A and 6B illustrate the separation of polynucleotides before assembly and the results after assembly, wherein Figure 6A ~~is directed to~~ depicts the separation bands of the pre-assembly polynucleotides. Lane 1 of Figure 6A shows isolated DNA fragments of the mutant OC9a alkaline phosphatase gene, wherein the length of the ORF is 1.8 kb. Lane 2 shows a 1 kb ladder. and Figure 6B ~~is directed in its lane one to illustrating~~ depicts the separation of bands of reassembled polynucleotides after the first round of reassembly in which 1 kb products have formed (lane 1) and ~~in lane two illustrating~~ and the separation of bands of reassembled polynucleotides after the second round of reassembly PCR, (lane 2, showing a predominant band at 1.8 kb, the full alkaline phosphatase ORF). Lane 2 of Figure 6B shows the complete, reassembled random polynucleotide product ready for amplification, cloning and screening ~~for a useful utility.~~ Lane 3 of Figure 6B shows a 1 kb ladder.